

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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Table No: _____

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2016/2017

TIS2351/THI3461 – HUMAN-COMPUTER INTERACTION

(All sections / Groups)

7 October 2016
03:00 p.m. – 05:00 p.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 7 pages with 4 Sections only.
2. Attempt **ALL** questions in **SECTION A**, **SECTION B**, **SECTION C** and **SECTION D**. The distribution of the marks for each question is given.
3. Please write all your answers in the answer box associated with each question in this question paper.

Section A: Answer all questions.

Fill in each blank with ONE word that best describes the meaning of the sentence as a whole.

(10 marks)

Answer

Interaction design is now widespread in product development. The process of interaction design involves (1) ____ basic activities. The first step of designing (2) ____ products requires considering who is going to be using them, how they are going to be used, and where they are going to be used. These (3) ____ form the basis of the product's requirement. From this activity, some (4) ____ designs are generated in an attempt to meet the requirements that have been identified. Deliberately seeking out suitable sources of (5) ____ is a valuable step in any design process. Then, (6) ____ versions of the designs are developed. There are different techniques and some may not require a working piece of (7) ____ . The most sensible ways for users to (8) ____ such design is to interact with them. The (9) ____ are fed back into further design or to identify the missing requirements. This (10) ____ is one of the key characteristics of a user-centered approach.

1)

2)

3)

4)

5)

6)

7)

8)

9)

10)

Continued...

Section B: Answer all questions.

Read the scenario X and identify the choice that best completes the statement or answers the question.

Scenario X: A usability consultant observes how participants perform a pre-planned task using the wearable navigation device in a usability laboratory. The task requires the participants to find the telephone number of a restaurant called MMU Cafeteria. It takes them several minutes to do this and they appear to have problems. The video recording and interaction log suggest that the interface is very fiddly and the audio interaction is of poor quality, and this is supported by participants' answers on a user satisfaction questionnaire.

(10 marks)

- 1) The following are data gathering techniques used in the scenario X EXCEPT

Answer

- A. Questionnaire.
- B. Interaction log.
- C. Direct observation in the field.
- D. Direct observation in controlled environments.

- 2) Which of the following is an advantage for the data gathering techniques used in the scenario X?

- A. The observer saw how the device could be used in a real situation.
- B. The observer could replicate the exact situation.
- C. The observer could also be more subjective.
- D. None of the above.

- 3) The scenario X employed different data gathering techniques that could refer to

- A. Triangulation of data.
- B. Investigator triangulation.
- C. Triangulation of theories.
- D. Methodological triangulation.

- 4) What is a wearable navigation device in the scenario X?

- A. Clothing and accessories incorporating computer technologies to help user finds the way to a place.
- B. An interface requires the user to type in commands to find the possible directions to a place.
- C. A three dimensional map used by user to find the way to a place.
- D. Directions and local information are overlaid on a picture of the street when the user holding the phone.

Continued...

- 5) The following are potential participants for the scenario X EXCEPT
- A. Usability consultant.
 - B. MMU students.
 - C. Visitors.
 - D. All of the above.
- 6) Which of the following is an advantage for employing interaction log in the scenario X?
- A. Answering specific questions.
 - B. Collecting multiple viewpoints.
 - C. Exploring issues.
 - D. Data captured automatically.
- 7) Which of the following is an advantage for utilizing questionnaire in the scenario X?
- A. Exploring issues.
 - B. Data captured automatically.
 - C. Answering specific questions.
 - D. Collecting multiple viewpoints.
- 8) The time taken by all participants to complete a task in the scenario X is an example of ____ measurement.
- A. Effectiveness.
 - B. Efficiency.
 - C. Safety.
 - D. Utility.
- 9) What kind of data is gathered in the scenario X?
- A. Mostly qualitative.
 - B. Mostly quantitative.
 - C. Both qualitative and quantitative.
 - D. None of the above.
- 10) The following are correct steps taken to protect participants' right in the scenario X EXCEPT
- A. Make sure participants know that they are not allow to stop the evaluation at any time even they feel uncomfortable with the procedure.
 - B. Personal information that participants disclose during the evaluation should be treated as confidential.
 - C. Tell participants the goal of the study and exactly what they should expect if they agree to take part.
 - D. Ask participants for permission in advance to quote them, promise them anonymity, and offer to show them a copy of the report before it is distributed.

Continued...

Section C: Answer all questions.

- 1) What is the difference between a paradigm and a theory?

(2 marks)

Answer

- 2) Suggest two real-life examples whereby people are required to coordinate in time-critical and routine collaborative activities.

(2 marks)

Answer

- 3) Mr Ali, a website designer, has read Miller's theory and even created interface guidelines as follows:

- Have only seven options on a website menu.
- Place only seven tabs at the top of a website page.
- Display only seven items on a pull-down menu.

Explain why all of these are wrong.

(2 marks)

Answer

Continued...

- 4) Describe two conceptually distinct types of pleasure proposed in Jordan's model. (2 marks)

Answer

- 5) What is reliability? Provide one example. (2 marks)

Answer

Section D: Answer all questions.

- 1) GOMS model suggested two main ways to delete words from a sentence when using a word processor like Microsoft Word. These are:
 Method 1: Deleting each letter of the word individually by using the delete key.
 Method 2: Highlighting the word using the mouse and then deleting the highlighted section in one go.

Which of the two methods is quickest for deleting the word 'not' from the following sentence? (You are required to show your calculation steps using information provided in Table 1)

You do not like orange.

Table 1: The average time to carry out common physical actions

Operators	Time (s)
Mentally prepare to do something (M)	1.35
Homing hands on the keyboard or other device (H)	0.40
Pointing with a mouse or other device to a target on a display (P)	1.10
Clicking the mouse or similar device (P ₁)	0.20
Pressing a single key or button (K)	0.22

Continued...

(5 marks)

Answer

- 2) Draw a graphical representation of the hierarchical task analysis for buying a book. This task can be decomposed into subtasks: locate book, add book to shopping cart, enter payment details, complete shipping address and confirm order. Some of these subtasks might not be performed if the user is a regular user such as entering payment details and complete shipping address may not be performed in this case.

Continued...

(5 marks)

Answer

End of page